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ABSTRACT

An analysis of TH-roles in middle constructions (e.g., "this book reads poorly") responds to theories that the non-overtness of TH-roles in these constructions is attributable to syntactic suppression. It is argued that middle formation does not involve lexical operations that adjust a verb's argument structure, but rather involves two interrelated syntactic processes: external TH-role demotion and theme promotion. The TH-role is viewed as not syntactically suppressed but assigned to an argument that is structurally realized as a verb phrase adjunct that just happens to lack phonetic realization. In addition, structural realization of the external TH-role is seen as necessitating a movement analysis for externalization of the internal TH-roles. Analysis demonstrates that the external TH-role can be lexically overt or non-overt; if non-overt, the argument is expressed at PRO. (MSE)

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MIDDLES AND MOVEMENT

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One widely-recognized characteristic of Middle Constructions such as (1a-c) is that their external TH-roles are not expressed overtly.[1]

(1)a This book reads poorly.

b The baggage transfers efficiently.

c Those chickens kill easily.

Although the sentences in (1) show only that the external TH-roles in middles lack phonetic realization, Fagan (1988) and Roberts (1986) attribute the non-overtness of these TH-roles to their syntactic suppression. For Fagan and Roberts, both of whom assume that the Projection Principle does not require TH-roles to be structurally discharged if they are lexically saturated, the external TH-roles in middles have no phonetic realization because they are lexically prohibited from having any structural realization.

In this article, I demonstrate that the external TH-role in middles is in fact not syntactically suppressed. I argue that the external TH-role in middles like (1a-c) is assigned, in accordance with Larson's (1988) Principle of Argument Demotion, to an argument (PRO) which is structurally realized as a VP-adjunct that just happens to lack phonetic realization. I further argue that structural realization of the external TH-role

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necessitates a movement analysis for the externalization of the internal TH-roles in (1a-c).

1. Fagan and Roberts on Middles

Fagan argues that middles must be derived lexically because they cannot be generated syntactically. Assuming that preposition stranding is a test for syntactic movement, she contends that the absence of preposition stranding in middles (see (2)) demonstrates that the internal TH-roles in middles cannot be externalized via NP movement.

(2)a *John laughs at easily.

b *This bed sleeps in well

Since a syntactic analysis cannot account for evidence from preposition stranding, Fagan concludes that middles must be formed lexically. Committed to a lexical explanation of middles, Fagan claims, without offering any empirical support, that the external TH-role of middles is not realized structurally. She supports her claim by invoking Rizzi's (1986) argument that the Projection Principle (PP) operates exclusively on unsaturated TH-roles and by assuming that the external TH-roles in middles are lexically saturated by rule (3), so they are not required by the PP to be structural discharged.[2]

(3) Assign arb to the external TH-role.

Rule (3), according to Fagan, not only prevents the lexically licensed external TH-role from being doubly licensed in the syntax, but also is responsible for the generic interpretation of the external TH-role.

Like Fagan, Roberts claims that the external TH-role in

middles is not structurally realized and appeals to Rizzi's (1986) theory of undischarged TH-roles to account for the syntactic suppression of the external TH-role. Roberts analyzes the external TH-role in middles to be a chomeur TH-role--a TH-role that is present in the verb's argument grid, but not represented in the syntax as an argument, and therefore is given arbitrary reference at Logical Form.

Roberts supports his analysis of the external TH-role in middles with two arguments. First, noting that Class I adverbs (carefully, deliberately, voluntarily, intentionally...) require an agent argument (an external TH-role) and an eventive predicate, Roberts argues that ungrammaticality of middles with Class I adverbs (see (4)) demonstrates that middles must have their agent argument (their external TH-role) syntactically suppressed.[3]

(4)a *The book sold deliberately

b *Your books read intentionally

Second, Roberts argues that Rationale Clauses select for an agentive, eventive clause. The fact that middles with Rationale Clauses are ungrammatical (see (5)) proves for Roberts that middles do not have a syntactically-represented agent argument.

(5)a *The book sold [to make money]

b *Those chickens killed [to make money]

The arguments made by Roberts, however, are not logically compelling. Since Class I adverbs and Rationale Clauses require both an agent argument and an eventive predicate, the sentences in (4)-(5) could be ungrammatical if only one of the conjunctive requirements does not obtain. So it is possible that the

sentences in (4)-(5) could be ill formed if they have an agent (external TH-role) but not an eventive predicate. Given Roberts's arguments that middles in fact have stative rather than eventive predicates, Roberts cannot then logically conclude that the data in (4)-(5) proves that the agent in middles is syntactically suppressed.[4] To demonstrate that the agent argument in middles is suppressed, Roberts should have tested middles with his Class II adverbs (adverbs--such as slowly, frequently, and quickly--which he claims require an agent). Had Roberts made this test, he would have reversed his findings, concluding that the evidence in (6) shows that middles have agent arguments.

(6)a That book reads slowly

b Boxes like these frequently do not transport well

c This book translates quickly

From (6), we can see that middles do seem to be compatible with agent arguments (external TH-roles).

Although both Fagan's and Roberts's analyses of middles require that the external TH-role in middles not be structurally realized, these analyses offer very few empirically motivated arguments in support of this suppression and the arguments that have been put forth, as we have seen, are not compelling. In the next section, I offer evidence that shows, contra Fagan and Roberts, that the external TH-role is structurally discharged in middles.

2. Middles and External TH-Roles

There are two types of evidence which suggest that the

external TH-role is structurally present in middles. The first type of evidence comes from subject-contained anaphors in middles. Consider the sentences in (7).

(7)a Books about oneself never read poorly

b Letters to oneself compose quickly

c Arguments with oneself generally end abruptly

The data in (7) demonstrate that anaphors can emerge in the surface subject of middles. But how are these anaphors licensed? Let us assume, following GB theory, that anaphors must be bound in their governing categories. Under this assumption, the anaphors in (7), which have the matrix sentence as their governing category, must be coindexed with some c-commanding NP argument. (Note that no such coindexing is possible in Fagan's or Roberts's analyses because these analyses, which assume that the external argument is lexically saturated, permit the middle verb to have but one argument, precluding any coindexing between the anaphors and another argument.) To account for the anaphors in (7), we must hypothesize that middles have not one, but two structural arguments: the overt THEME, which manifests as the surface subject, and some empty argument that syntactically licenses the anaphors. Further, since verbs like "end" in (7c) take at most one internal argument (the THEME), we can conclude that the empty arguments in (7) are assigned external TH-roles. (We will consider the features of this empty category later in this section.)

Additional evidence supporting the syntactic presence of the external TH-role in middles comes the sentences in (8).

(8)a That book will read quickly for Mary

b No latin text translates easily for Bill

(8 a-b) have their external TH-roles syntactically expressed. The only interpretations possible for (8 a-b) must read the prepositional objects as agents: Mary is interpreted as the reader of the book in (8a) and Bill is the translator of the text in (8b). Given these readings for (8 a-b), we must conclude that the external TH-roles (agents) are overtly expressed in the syntax; hence these roles are not, as Fagan and Roberts would have them, structurally undischarged.

Although (7)-(8) show that middle verbs have syntactically realized external arguments, we need to determine (i) the features of the empty arguments in (7) and (ii) the syntactic position of the external arguments in (7)-(8).

Under GB assumptions about the nature of empty categories, since each empty NP argument in (7) is an NP with an independent TH-role, it must be pro, PRO, or an IMP(licit) argument.[5] The fact that English lacks the specification mechanism to license pro suggests that the empty arguments in (7) must be PRO or IMP. To determine if the empty argument is PRO or IMP, we can apply Roberts's three diagnostics for distinguishing PRO from IMP.[6] Roberts notes (i) that IMPs cannot bind anaphors, but PROs can, as in (9); (ii) that IMPs cannot be controlled but PROs can, as in (10); and (iii) that IMPs cannot, but PROs can, control into adjuncts, as in (11).

(9)a *Letters were sent IMP_k to themselves$_k$

b They expected PRO_k to send letters to each other$_k$

(10)a *They$_k$ expected rumors to be spread IMP$_k$

b They$_k$ expected PRO$_k$ to spread rumors

(11)a *The book was read IMP$_k$ without PRO$_k$ putting it down

b They expected PRO$_k$ to read the book without PRO$_k$ putting it down

When we apply the above three diagnostics to middles such as (7), we find that the empty argument in the middles functions like PRO. As for the first diagnostic, we have already seen in (7)--repeated here as (12)--that middles permit their empty arguments to license anaphors; hence, according to the first diagnostic, these arguments (ECs) must be PRO.

(12)a Books about oneself$_k$ never read poorly EC$_k$

b Letters to oneself$_k$ compose quickly EC$_k$

c Arguments with oneself$_k$ generally end abruptly EC$_k$

The second diagnostic, which correlates the property of being a controllee with PRO but not with IMP, also suggests that the EC in middles is PRO. Consider the sentences in (13).

(13)a Mary$_k$ expects the Latin text she was assigned to translate quickly EC$_k$

b Mary$_k$ believes that they think that arguments with herself generally end abruptly EC$_k$

c John$_k$ expects that the book he just bought will read quickly EC$_k$

Notice that the ECs in (13) all can be controlled by NPs coindexed with them. That the ECs can be controlled leads us to conclude that they are PROs, rather than IMPs.

Like the first two diagnostics, the third diagnostic test, which identifies PRO but not IMP as a possible controller,

demonstrates the the empty argument in middles is PRO. The control property of the ECs in middles is illustrated in (14).

(14)a Physics books read slowly EC_k even while PRO_k skimming them

b Books about oneself read so well EC_k that PRO_k reading them again generally is a pleasure

c Bureaucrats bribe best EC_k after PRO_k doing them a favor or two

Since the sentences in (14) clearly show that the ECs in middles can in fact control PRO, we can conclude that these ECs are themselves PRO.

Although we have determined that the middle constructions in (1) or in (7) do have their external TH-role discharged and that this role is discharged as a PRO argument, we still need to ascertain how, and where, the external TH-role is realized syntactically. In trying to located the external TH-role in the syntax, we must be aware that the distribution of this role is structurally constrained. That is, since PRO cannot be governed, the external TH-role in middles must emerge in an ungoverned structural position. This constraint on representation then prevents the external TH-role from being discharged in an A(rgument)-position because such position are governed by heads-of-constructions (the constraint precludes the external TH-role from being realized as a VP-internal argument or as the subject of the sentence). So the external TH-role must appear in some ungoverned, non-Argument position.

If we follow Larson's Principle of Argument Demotion (15), we

can explain how the external TH-role in middles is syntactically realized in an ungoverned, non-Argument position.

(15) Principle of Argument Demotion (PAD)

If A is a TH-role assigned by X^k, then A may be assigned (up to optionality) to an adjunct of X^k.

Given that the external TH-role in middles is assigned by the VP, PAD would permit this TH-role to be demoted from subject of IP to VP-adjunct. PAD then would allow sentence (16a) to have partial S-structure (16b).

(16)a Bureaucrats bribe easily

b $[_{IP}$ Bureaucrats $[_{I'}$ I $[_{VP}$ $[_{VP}$ bribe easily] PRO]]

Structure (16b) captures the following facts about the middle construction (16a): (i) the middle verb takes two arguments <AGENT, THEME>, which it expresses syntactically; (ii) the external TH-role is PRO; (iii) the external TH-role is not represented as the surface subject. Although (16b) is compatible with PAD and does explain some interesting facts about middles, if it to be a viable structural representation of middles, we must still show that PRO can assume the VP-adjunct position assigned in (16b).

In (16b), PRO will be able to be the demoted external TH-role only if it is ungoverned in its adjunct position. To determine whether or not PRO is ungoverned in (16b), let us assume Chomsky's (1986) version of government--where A governs B iff a m-commands B and there is no C, C a barrier for B, such that C excludes A and where A m-commands B iff A does not dominate B and every maximal projection dominating A dominates B. Now if PRO can be governed in (16b), it will have to be governed by one of

two possible X^0 governors for PRO in (16b): INFL or V. Although INFL m-commands PRO, it cannot govern PRO because VP is not L-marked by INFL, hence VP is a barrier against goverment between INFL and anything in VP, including the PRO adjunct.[7] It is also the case that V cannot govern PRO in (16b). The verb in (16b) can govern PRO only if it m-commands PRO; however, since the VP projection dominates V but not PRO, V does not m-command PRO and, therefore, cannot govern PRO. Because neither INFL nor V govern PRO in (16b), PRO is ungoverned and, consequently, (16b) is a viable representation for (16a).

What we have shown in this section is that middle verbs syntactically discharge their external TH-roles as arguments demoted to VP adjuncts.

3. Middles and Movement

Here I want to outline the process of middle formation, showing how the demotion of the external TH-role and the promotion of the internal TH-role conspire to explain the anaphor binding in (7).

Let us follow Roberts in assuming that middle verbs are stativized (temporally obviative) verbs formed by the failure of INFL-V coindexing. This failed coindexing, according to Roberts, prevents the VP from using INFL to project its external TH-role into the subject position. Consequently, the external TH-role, which as we have argued is present in the syntax, must be demoted. The mandatory demotion of the external TH-role requires sentence (17a) to have D-structure (17b).

(17)a Books about oneself never read poorly

b $[_{IP}$ e $[_{I'}$ I $[_{VP}$ $[_{VP}$ never read books about oneself poorly] PRO]]]

Notice that the THEME argument must be VP internal at D-structure not only because the verb cannot project any argument into the subject position, but also because the THEME is L(exically)-marked by the verb (so it must be a V-sister at D-structure).

Let also follow Roberts and Larson (1988) in assuming that V can assign Accusative case only if V is coindexed with INFL.[8] Since there is no INFL-V coindexing in middles, the verb cannot assign Case to its object. Therefore, the object must move to subject position to receive Case.[9] Sentence (17a) then has S-structure (18).

(18) $[_{IP}$ [books about oneself]$_k$ $[_{I'}$ I $[_{VP}$ $[_{VP}$ never read t_k poorly] PRO]]]

As described above, middle formation depends on two inter-related syntactic processes: AGENT-demotion, which we have already discussed at lengthen, and THEME-promotion.

Support for THEME-promotion comes from anaphoric binding in middles. If the THEME were generated in the subject position at D-structure, then the anaphor in (17a) could not have an antecedent, since there would be no NP high enough in the syntactic structure to c-command the anaphor. However, under our movement analysis, in conjunction with Belletti and Rizzi's (1988) argument that anaphors can be bound at any syntactic level, we can explain the anaphoric binding in (17a). Given our analysis, the anaphor in (17a) will be bound at D-structure

(17b), the level at which PRO c-commands the anaphor. If our analysis of anaphoric binding in middles with non-overt external TH-roles is correct, then we would expect to find only those anaphors in middles that can agree with PRO. In (18), we find that anaphors with features not compatible with PRO cannot in fact be licensed.

(18)a *Books about herself read poorly

b *Letters to himself compose quickly

c *Arguments with themselves generally end abruptly

Further, since the external argument in middles can be expressed overtly, as in (8), we predict that the anaphors licensed by overt external arguments must agree in features with the arguments. We test this prediction in (19).

(19)a Books about herself read quickly for Mary

b *Books about oneself read quickly for Mary

c *Books about himself read quickly for Mary

d *Books about themselves read quickly for Mary

The fact that the anaphors in (19) are licensed only if they agree in features with the external argument "Mary" supports our analysis in which the external argument binds the anaphor at D-structure, before the THEME argument is promoted to subject.

4. Conclusion

In this response to Fagan and Roberts, we have established that middle formation does not involve lexical operations which adjust a verbs argument structure, rather it involves two inter-related syntactic processes: external TH-role demotion and

THEME promotion. Our analysis of middles has also established that the external TH-role can be lexically overt or lexically non-overt, and if non-overt, then the argument is expressed as PRO.

NOTES

[1]Other well known characteristics of middles are (i) the THEME argument is the surface subject and (ii) the middle verb must be modified. In this article, I will discuss the former property but not the latter.

[2]Fagan also attributes the externalization of the THEME argument in middles to a lexical rule (i).

(i) Externalize the direct TH-role.

For Fagan, middle formation depends only upon lexical operations, no syntactic processes being involved in the formation.

[3]For a complete list of Roberts's adverbial classification, see Roberts (72).

[4]Roberts claims that middle verbs are not eventive because like non-eventive predicates, middle verbs (i) do not occur in the progressive, (ii) do not cooccur with Class I adverbs, (iii) do not appear in pseudoclefts, and (iv) do not have an iterative simple present.

[5]Roberts (69) defines IMPs as "structurally present non-overt logical subjects of passives."

[6]Roberts contends that there is a fourth difference between

IMP and PRO: IMPs cannot be objects of predication, but PRO can (see (i)).

(i)a *The room was left IMP^k sad_k

b They expected PRO_k to leave sad_k

I do not consider the predication test to be a reliable diagnostic because sentences such as those in (ii) suggest that IMP can in fact be the object of predication.

(ii)a That painting was painted IMP_k $blindfolded_k$

b I can tell that this letter was written IMP_k $[\text{in a good mood}]_k$

c This bank-job wasn't done IMP_k $alone_k$

[7]Chomsky defines "L-marking" as in (i) and "barrier" as in (ii).

(i) A L-marks B iff A is a lexical category that TH-marks B and is a sister to B.

(ii) A is a barrier for B iff (a) or (b)

(a) A immediately dominates C, C a Clocking Category (BC) for B

(b) A is a BC for B, A = IP.

where C is aBC for B iff C is not L-marked and C dominates B

[8]I will follow Roberts in assuming that Prepositions are licensed as Case assigners. When INFL-V coindexing fails, then V cannot project its Case assigning function to any Prepositons it governs. Consequently, the ungrammaticality of sentences such as (i), which Fagan cites as evidence against movement in middles, can be explained in terms unlicensed Prepositions.

(1)a *John laughs at easily

b *This bed sleeps in well

[9]Support for Roberts's claim that the object must be moved for Case theoretic reasons comes from (i), where the object NP fails to be Case-licensed.

(i) *It never reads books about oneself poorly PRO

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